The Knowledge Bank at The Ohio State University

Ohio State Engineer

Title: Age of Water Power Development Near

Issue Date: Mar-1920

Publisher: Ohio State University, College of Engineering

Citation: Ohio State Engineer, vol. 3, no. 2 (March 1920), 14, 23-24.

URI: http://hdl.handle.net/1811/34039

Appears in Collections: Ohio State Engineer: Volume 3, no. 2 (March, 1920)

Age of Water Power Development Near

Those who look into the future with prophetic eyes predict that an age of water power is dawning. They point wisely towards the great water power developments already completed or in course of construction all over the world, from the rivers of Maine to the canyons of California, from Alaska to Argentine and from the Kashmir Valley in India to the outlet of Victoria Nyanza in Africa. And they back up their arguments with the statement that coal will be exhausted early in the next century and that mineral oil and natural gas will vanish with the coal.

Amid all this prognosticating and arguing arises a host of questions about this water power which is to keep us from freezing in the next century, to turn the wheels of our industries, to prepare the food and to run our vehicles.

Every stream of running water, from the trout

(Continued on page 23)

AGE OF WATER POWER DEVELOPMENT NEAR

(Continued from page 14)

brook sporting through the farm meadows to the largest rivers, is capable of producing more or less power. A hundred years ago, when steam power was still in its infancy, water power was quite extensively developed in this country but the steam engine, with cheap wood and coal fuel, quickly reached the practical stage and the old "over-shot" and "under-shot" water wheels were abandoned. Up to a few years ago it was not practical to develop most water power because this power had to be utilized on the spot and very naturally the very best water falls were located in the wilderness, scores of miles away from the seaports, the railroads and the cities which needed it. But the development of the electric transformer changed all this and made it possible to transmit this energy for hundreds of miles without serious loss.

The power of water is greater than any one without experience can imagine. For many of us have, when in swimming, struck the water a sharp blow with the flat of the hand, or, when learning to dive, struck the water flate instead of head first only to learn that the liquid offered considerable resistance.

A stream from a fireman's hose will knock a man down. The jet from a nozzle in placer mining in the west eats away a large piece of land in a day and toys with great boulders as if they were pebbles.

Water power represents heat energy. The water is drawn up into the clouds by the heat of the sun and deposited on the distant mountains in the form of rain. This water spends this acquired energy in racing downhill, back to the sea. Water wheels are but devices to catch and utilize this energy which ordinarily is wasted on the unmoving rocks and stones. Water acts as a moving power either by its weight, which is over sixty-two pounds to the cube foot, or by its pressure or impact. The power of a fall of water is equal to the weight of its volume and the vertical height of its fall. To compute the power of falling water it is necessary to multiply the volume of flowing water in cube feet per minute by its weight, 62.5 pounds, and this product by the vertical height of the fall in feet. Thus a stream of water when flowing over a weir five feet in width by one foot in depth

and having a fall of twenty feet develops 37.91 horse power.

So important is the development of water power in this country that the General Electric Company and other large electrical concerns maintain a large staff of engineers whose duties are to examine prospective water power developments for enterprising men who plan to harness the rivers and streams.

Engineers of the Scarlet and Gray

The Ohio State Engineer is full to the brim of matters of vital interest to every alumnus of "State."

If you are interested in higher salaries, watch the progress of forces tending to raise them, thru your college paper.

Don't you wonder where your old "side-kick" is working, and what he is doing? Don't you enjoy seeing the announcement that he has at last succumbed to the girl you used to chase around?

All right! Then subscribe for the

Ohio State Engineer

The Ohio State University

4 Copies Per Year

Mailed to You-- $1.00 Per Year